

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number	: 10/002,508	Confirmation No.:	6178
Applicants	: Ralph H. REESE, <i>et al.</i>		
Filed	: November 2, 2001		
Title	: MACHINE ASSISTED SYSTEM FOR PROCESSING AND RESPONDING TO REQUESTS		
Art Unit	: 2614		
Examiner	: Joseph T. PHAN		
Docket No.	: 33267.00005.CON1		
Customer No.	: 36183		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF RALPH H. REESE UNDER 37 C.F.R. § 1.131

I, Ralph H. Reese, declare as follows:

1. I am one of the inventors of U.S. Patent No. 6,373,939, filed August 20, 1999. I am one of the inventors of the current pending U.S. Patent Application No. 10/002,508, filed November 2, 2001 which is a continuation application of U.S. Patent No. 6,373,939, filed August 20, 1999.
2. Attached hereto as Exhibit A is a true and correct copy of a facsimile cover sheet and a first draft patent application for the present invention that was sent via facsimile from Jeff Standley to Alan Truitt on April 14, 1999.
3. Attached hereto as Exhibit B is a true and correct copy of a facsimile confirmation report demonstrating that Exhibit A was successfully transmitted on April 14, 1999.
4. Exhibit A includes what appear to be undated handwritten notes by Jeff Standley that were not part of the first draft patent application as originally sent to Alan Truitt.
5. Attached hereto as Exhibit C is a true and correct copy of a facsimile cover sheet and a second draft patent application for the present invention that was sent via facsimile from Jeff Standley to me on June 23, 1999.

6. Attached hereto as Exhibit D is a true and correct copy of a facsimile that was received by Jeff Standley from me on June 23, 1999, demonstrating that portions of Exhibit C were received by me on June 23, 1999.
7. Attached hereto as Exhibit E is a true and correct copy of a facsimile confirmation report demonstrating that Exhibit C was successfully re-transmitted to me on June 29, 1999.
8. Attached hereto as Exhibit F is a true and correct copy of a facsimile that was received by Jeff Standley from me on June 30, 1999.
9. Exhibit F includes a coversheet and comments regarding the second draft application for the present invention, and has an automatically generated timestamp demonstrating that Exhibit F was received on June 30, 1999.
10. Exhibits C and E include handwritten notes by Jeff Standley dated August 3, 1999. These notes were not part of the second draft application as originally transmitted to me.
11. Attached hereto as Exhibit G is a true and correct copy of a coversheet and a third draft application of the present invention sent via Airborne Express from Jeff Standley to Alan Truitt on August 6, 1999.
12. Attached hereto as Exhibit H is a true and correct copy of an Airborne Express shipping label demonstrating that Exhibit G was shipped on August 6, 1999.
13. Attached hereto as Exhibit I is a true and correct copy of the Assignment pertaining to the present invention signed by Alan Truitt on August 16, 1999, and by me on August 17, 1999.
14. Attached hereto as Exhibit J is a true and correct copy of the Declaration pertaining to the present invention signed by Alan Truitt on August 16, 1999, and by me on August 17, 1999.
15. Attached hereto as Exhibit K is a true and correct copy of the coversheet of Exhibit G with handwritten notes by Jeff Standley.
16. Exhibit K demonstrates that Exhibits I and J were received by Jeff Standley on August 19, 1999.

17. Attached hereto as Exhibit L is a true and correct copy of a postcard confirmation from the U.S. Patent and Trademark Office ("PTO") demonstrating that the application for the present invention was received by the PTO on August 20, 1999.
18. The presently claimed invention was conceived by Alan Truitt and me prior to July 9, 1999. Alan Truitt, Jeff Standley, and I were diligent in preparing and filing the application for the presently claimed invention from prior to July 9, 1999, until the present invention's filing date of August 20, 1999.
19. Attached hereto as Exhibit M is a true and correct copy of a proposal sent to Fleet Credit Card Services in September 1998, offering to implement a customer service and technical support transaction system incorporating the presently claimed invention. This system is a reduction to practice of the presently claimed invention and was in fact implemented and reduced to practice before July 9, 1999.
20. Attached hereto as Exhibit N is a true and correct copy of a detailed status report of the task completion dates for the implementation of the presently claimed invention, last updated October 25, 1998.
21. Attached hereto as Exhibit O is a true and correct copy of a system report run on December 1, 1998, detailing the performance of the presently claimed invention with respect to different voice prompts and user responses.
22. Exhibit O demonstrates that 10,147 calls were received by the system during November, 1998 and that an embodiment in accordance with the present invention was operating in November 1998.
23. Attached hereto as Exhibit P is a true and correct copy of a Fleet Process Checklist dated December 7, 1998, specifying the daily responsibilities for running the reports, including reports for the process *Agent+IVR*, which, for example, implemented the presently claimed invention.
24. The presently claimed invention was actually reduced to practice before July 9, 1999.

Date:

2.26.08

By:

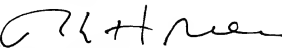

Ralph H. Reese

Exhibit A

STANDLEY & GILCREST

Attorneys and Counselors at Law

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FACSIMILE COVER SHEET

TO: Alan Truitt DATE: 4/14/99

COMPANY: _____

FROM: Jeff Standley FACSIMILE NO.: 801-264-6550

Number of Pages (including cover page) 10 pages

SUBJECT: _____

NOTES: _____

Confirmation: _____ by First Class Mail
_____ by Express Mail
☒ none

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DRAFT

DRAFT

NEGOTIATING

MACHINE ASSISTED SYSTEM FOR PROCESSING AND RESPONDING TO REQUESTS

Inventors: Ralph Reese
Alan Truitt



5

BACKGROUND AND SUMMARY OF THE INVENTION

Many businesses, such as credit card companies, receive frequent requests for
10 information of a type which requires a person's response to certain questions. The ability
to provide this service via a telephone, the internet, or other various means is highly
desirous. As the information requested becomes more complicated, more data is required
to formulate a proper response. Callers want instant access to information and quick
responses to questions, thus requiring a caller to provide large amounts of information
15 and processing this information for each request is not efficient.

Ideally, the goal is to facilitate the response by minimizing the amount of data that
must be re-created or created after the request is submitted, shorten the time required to
process the response after it is received, and/or to fully automate the response to the
request. It is advantageous, therefore, to have a system that recognizes the caller, and
20 which accesses a database of information about the caller built from responses to
questions submitted to the caller during prior use of the system. Each time the caller uses
the system, additional, relevant information may be stored and outdated information may
be updated within the database. All of the information from the database, as well as the
information gained from the responses of the caller during the current use of the system,
25 may then be made available to postulate a resolution. Such a system will save
considerable time in responding to a caller, and may allow for responses to more complex
requests.

output of call could be out of this system instead of back through it to database

def. of caller should be man or machine

such as the a credit card company

The present invention satisfies the need for such a response system. When a

person requests information from a business, for example, over the telephone, the call may be answered by an ACD (automatic call distributor) and transferred to an IVR (interactive voice response unit, also sometimes referred to as an ARU - automated

- 5 response unit, or VRU- voice response unit). The IVR may be programmed to ask the caller questions and processes the caller's responses, until the caller answers all questions, abandons the call, or requests to speak to a person. The caller may respond to the questions by one of several methods. For example, responses may be entered by speaking in which case the IVR records the caller responses or has a speech recognition
- 10 capability for determining the caller's responses, or by receiving touch tones from the caller responding by pushing buttons on the telephone touchpad. All information provided by the caller is captured and transformed preferably electronically (but may also be by manual entry via a computer keyboard into a computer system), from the initial input signal to a form that is usable in responding to the request. The information entered
- 15 by the caller may be used for retrieving additional information from a preexisting database, constructed during the caller's past use of the system and/or constructed from prior data entry from other means, such as a live operator's manual entry of data.

broaden scope of what devices may answer a call (not just an IVR) could be a web site

get rid of brand names in drawings

- Once the caller answers all of the questions, the request may be transferred to a person or a computer, either of which is able to access and use all of the information
- 20 entered by the caller and retrieved from the database in order to formulate a response. If the caller terminates use of the system prior to responding to all the questions, the responses already entered may be retained in the database for future use. If it is required that the request be transferred to a second, or additional person or computer, or back and

define CSR (customer service rep)

broaden database definition to include any file

forth between persons and computers, the information entered by the caller and retrieved from the database will be accessible and usable in responding.

The system of the present invention is not limited to requests made by telephone. Requests may be submitted by sound, speech, electronic text, email, fax, internet, or any input from a human, machine, telephone, or computer that is processed by making use of a voice or data network or a device embedded in or attached to a network. As such, a caller may also respond to questions posed by the system in ways not involving the telephone. For example, a caller may make an entry into a computer-based application, or utilize another type of signaling device such as a tone generator.

The system of the present invention eliminates the redundant entering of information each time a caller accesses the system. By recognizing the caller, and retrieving relevant information about the caller from a preexisting database, a minimum amount of new information is required from the caller before a response can be generated. Thus, an accurate response can be provided to a caller in much less time. Additionally, because a significant amount of information about a caller may be maintained in a database, the system may also include the ability to process requests that require conclusions about the caller. For example, the system further includes the ability to obtain information from various credit bureaus, and to use this information in conjunction with the information retrieved from the database to perform the calculations necessary for the approval or denial of loans or credit card applications. The system in this manner becomes a vehicle for negotiations of transactions. Instead of merely accomplishing static data collection from caller responses, the present invention provides

a system for dynamic negotiations to conclude a transaction while the system is live with the caller.

BRIEF DESCRIPTION OF THE DRAWINGS

5

Figure 1 shows a portion of the preferred embodiment of the present invention, wherein the system is configured to respond to requests for information.

Figure 2 depicts an alternate embodiment of the present invention, wherein the system of Figure 1 is further provided to communicate with secondary information

10 sources, such as credit bureaus.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

A portion of the preferred embodiment of the system 1 of the present invention can be seen in Figure 1. A request 2 is made to the system 1 via telephone, fax, internet, or various other means. An ACD 4 answers the request and transfers it to an IVR 6. The

5 IVR 6 is able to identify the caller by responses the caller provides and/or by ANI (automatic number identification) verification known to those of ordinary skill in the art.

The IVR 6 asks the caller questions and processes the caller's responses, until the caller answers all of the required questions, terminates the request, or requests to speak to a

person. The responses to the questions asked by the IVR may be entered by any of

10 various means, depending on the device used to make the request. For example, sound,

speech, electronic text, email, fax, internet, or any input from a human, machine,

telephone, or computer that is processed by making use of a voice or data network or a

device embedded in or attached to a network may be used to respond to the IVR. The

IVR 6 preferably has natural language voice recognition, such that it is able to respond to

15 human speech. Once the required information is obtained from the caller, the IVR 6

routes the request to a server 10 coupled to a routing switch 8. Depending on the request

made by the caller, additional information may be needed to formulate a response.

The routing switch 8 is also coupled to a database server 12, which is controlled by a contact management system 14. The database server 12 contains information on the

20 callers who use the system 1. Each time that a caller uses the system 1, any relevant

information about the caller is stored in a database 16 within the database server 12. The

next time that the caller uses the system 1, the collected information in the database 16

will be available for use along with the additional information obtained by the IVR in order to generate a response to the request.

The routing switch 8 may also be in communication with a hub 18 for distribution of the information. The hub 18 may be connected to any number of workstations 20 or other devices for displaying the information or for formulating a response. For example, if a caller wishes to speak to a person, any information that the caller has input to the system 1 as well as any relevant information from the database 16 will be transferred to the person responding to the request. Each time the caller is transferred to another person, or between persons and computers, the relevant information will be transferred also.

Figure 2 is preferably identical to the embodiment of Figure 1, with the added ability to communicate with at least one external, secondary information source. As in the above description, a request 2 is sent to the system. The process for responding to the request follows the same steps as described for Figure 1. For a complex request, such as, for example, a credit card application, additional information not available from the caller or from the database 16 may be required. In such a case, the system 1 may be provided with the ability to retrieve the information from another source.

As can be seen in Figure 2, the system is designed to communicate with one or more credit bureaus 30. A signal from the routing switch 8 preferably passes through a firewall 22 and into a router 24. The signal then passes through a DSU/CSU 26 before reaching the credit bureaus 30. Various information such as credit history 34 and credit scoring 32 may be obtained from the credit bureaus 30. The system 1 may then use the data from the credit bureaus 30 in conjunction with the information it already possesses

to calculate a proper response to the request. Having the ability to access this additional information allows the system 1 to provide actual calculated responses. Without this ability, the system 1 would only be able to provide a generic response based on the information it currently had available, and the caller would have to wait until the
5 necessary additional information was obtained. In such a case, an automated or instantaneous response would be impossible, as a person would likely have to obtain the additional information necessary to reach a conclusion.

The present invention allows a business or other entity to respond to requests for information in a more timely and efficient manner, and to make automated responses to
10 requests that previously required human interaction. By capturing all of the information input by a caller and storing the relevant information in a database, the amount of data and time required to respond to a request can be minimized. Additionally, by providing the system with the ability to obtain information from outside sources, more complex requests can be handled by the system. Now instead of merely collecting data about a
15 caller for later action, the present invention collects caller data, compares the data to other existing data, dynamically decides which questions to ask the caller based on the data provided by the caller and in view of the data accessed at an additional source, and provides the caller with a resolution during the call. This resolution may be, by example, a decision to increase the caller's credit line on a credit card.

20 The scope of the invention is not to be considered limited by the above disclosure, and modifications are possible without departing from the spirit of the invention as evidenced by the following claims.

What is claimed is:

1. A system for responding to a caller request, comprising:

a communications system including at least one IVR connected to interact with said caller;

a database including existing data electronically accessible by said IVR;

a source of additional data, said source of additional data electronically accessible by said IVR;

a live operator station adapted to be in communication with said IVR and said caller;

means for dynamically selecting questions asked by said IVR to said caller based on caller responses to said IVR, based on said existing data, and based on said additional data in view of said caller responses;

means for resolving said caller's responses to provide said caller with a decision pertaining to said caller's request.

2. The system of Claim 1 wherein an IVR identifies the caller.

3. The system of Claim 2 wherein said IVR queries the caller for necessary information.

4. The system of Claim 3 wherein a database is employed to store information about the callers using the system.

5. The system of Claim 4 wherein said information obtained by said IVR is used to update and add to said database.

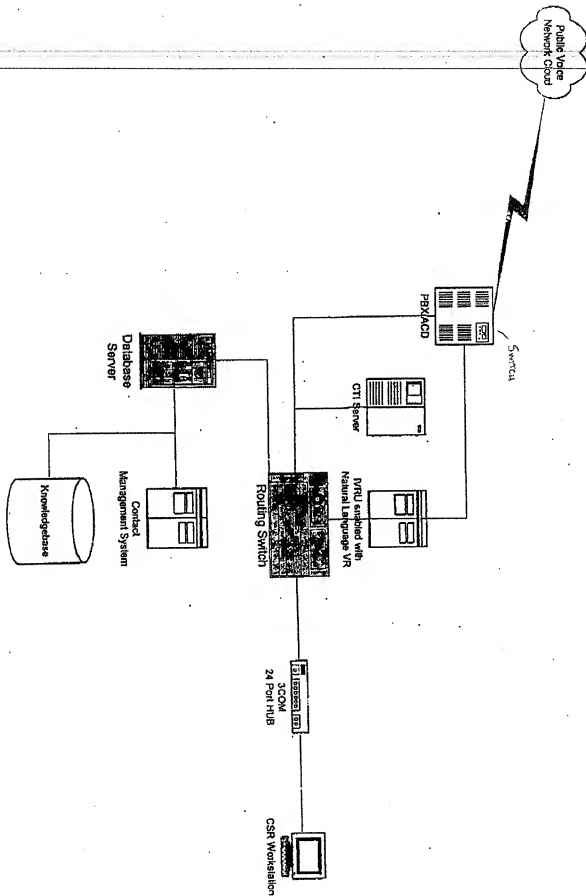


Exhibit B

Confirmation Report

Time : Apr-14-99 04:35pm
Tel line :
Name :

Nbr.	Job	Date	Time	Duration	pgs	To	Dept.	Account	Mode	Status
441	478	Apr-14	04:31pm	04/03	11	18012646350--1397001			EC 502	OK

Exhibit C

STANDLEY & GILCREST

LLP

Attorneys and Counselors at Law

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FACSIMILE COVER SHEETDATE: 6/23/99 FACSIMILE NO.: 800-365-3500 x265TO: Ralph ReeseCOMPANY: Reese BrothersFROM: Jeff StandleyNumber of pages (including cover sheet) - 14 pages

SUBJECT: _____

NOTES: latest draft of patent applicationCONFIRMATION: ☐ by First Class Mail
☐ by Express Mail
☒ none**CONFIDENTIALITY NOTICE**

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Comments of Alan, Staker by phone week of 8/3/99 JSS

MACHINE ASSISTED SYSTEM FOR PROCESSING AND RESPONDING TO REQUESTS

Inventors: Ralph Reese
Alan Truett

BACKGROUND AND SUMMARY OF THE INVENTION

Many businesses, such as credit card companies, receive frequent requests for information of a type which requires a person's response to certain questions. The ability to provide this service via a telephone, the internet, or other various means is highly desirous. As the information requested becomes more complicated, more data is required to formulate a proper response. Callers want instant access to information and quick responses to questions, thus requiring a caller to provide large amounts of information and processing this information for each request is not efficient.

Ideally, the goal is to facilitate the response by minimizing the amount of data that must be re-created or created after the request is submitted, shorten the time required to process the response after it is received, and/or to fully automate the response to the request. It is advantageous, therefore, to have a system that recognizes the caller, and which accesses a database of information about the caller built from responses to questions submitted to the caller during prior use of the system. Each time the caller uses the system, additional, relevant information may be stored and outdated information may be updated within the database. All of the information from the database, as well as the information gained from the responses of the caller during the current use of the system, may then be made available to postulate a resolution. Such a system will save considerable time in responding to a caller, and may allow for responses to more complex requests.

The present invention satisfies the need for such a response system. When a person requests information from a business, for example, over the telephone, the call may be answered by an ACD (automatic call distributor) and transferred to an IVR (interactive voice response unit, also sometimes referred to as an ARU –automated response unit, or VRU- voice response unit). The IVR may be programmed to ask the caller questions and processes the caller's responses, until the caller answers all questions, abandons the call, or requests to speak to a person. The caller may respond to the questions by one of several methods. For example, responses may be entered by speaking in which case the IVR records the caller responses or has a speech recognition capability for determining the caller's responses, or by receiving touch tones from the caller responding by pushing buttons on the telephone touchpad. All information provided by the caller is captured and transformed preferably electronically (but may also be by manual entry via a computer keyboard into a computer system), from the initial input signal to a form that is usable in responding to the request. The information entered by the caller may be used for retrieving additional information from a preexisting database, constructed during the caller's past use of the system and/or constructed from prior data entry from other means, such as a live operator's manual entry of data.

Once the caller answers all of the questions, the request may be transferred to a person or a computer, either of which is able to access and use all of the information entered by the caller and retrieved from the database in order to formulate a response. If the caller terminates use of the system prior to responding to all the questions, the responses already entered may be retained in the database for future use. If it is required that the request be transferred to a second, or additional person or computer, or back and

forth between persons and computers, the information entered by the caller and retrieved from the database will be accessible and usable in responding.

The system of the present invention is not limited to requests made by telephone. Requests may be submitted by sound, speech, electronic text, email, fax, internet, or any
5 input from a human, machine, telephone, or computer that is processed by making use of a voice or data network or a device embedded in or attached to a network. As such, a caller may also respond to questions posed by the system in ways not involving the telephone. For example, a caller may make an entry into a computer-based application, or utilize another type of signaling device such as a tone generator.

10 The system of the present invention eliminates the redundant entering of information each time a caller accesses the system or moves from point to point in the system. By recognizing the caller, and retrieving relevant information about the caller from a preexisting database, a minimum amount of new information is required from the caller before a response can be generated. Thus, an accurate response can be provided to
15 a caller in much less time. Additionally, because a significant amount of information about a caller may be maintained in a database, the system may also include the ability to process requests that require conclusions about the caller. For example, the system may further include the ability to obtain information from outside sources such as various credit bureaus, and to use this information in conjunction with the information retrieved
20 from the database to perform the calculations necessary for the approval or denial of loans or credit card applications. The system in this manner becomes a vehicle for negotiations of transactions. Instead of merely accomplishing static data collection from caller responses, the present invention provides a system for dynamic negotiations to

conclude a transaction while the system is live with the caller. By creating a packet of information in a computerized record, the caller's information (entered during the call, collected from a database during the call, or collected from an outside source during the call) can travel with the call and be immediately accessible to all users of the system to respond to the caller's request.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a portion of the preferred embodiment of the present invention, wherein the system is configured to respond to requests for information;

Figure 2 depicts an alternate embodiment of the present invention, wherein the system of Figure 1 is further provided to communicate with secondary information sources, such as credit bureaus; and,

Figure 3 shows a schematic representation of a preferred embodiment of the system of the present invention in which a unit of work information packet is created and travels with a call.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

A portion of the preferred embodiment of the system 1 of the present invention

can be seen in Figure 1. A request 2 is made to the system 1 via telephone, fax, internet, or various other means. An ACD 4 answers the request and transfers it to an IVR 6. The

IVR 6 is able to identify the caller by responses the caller provides and/or by ANI (automatic number identification) verification known to those of ordinary skill in the art.

The IVR 6 asks the caller questions and processes the caller's responses, until the caller answers all of the required questions, terminates the request, or requests to speak to a person. The responses to the questions asked by the IVR may be entered by any of

various means, depending on the device used to make the request. For example, sound, speech, electronic text, email, fax, internet, or any input from a human, machine, telephone, or computer that is processed by making use of a voice or data network or a device embedded in or attached to a network may be used to respond to the IVR. The IVR 6 preferably has natural language voice recognition, such that it is able to respond to human speech. Once the required information is obtained from the caller, the IVR 6 routes the request to a server 10 coupled to a routing switch 8. Depending on the request made by the caller, additional information may be needed to formulate a response.

The routing switch 8 is also coupled to a database server 12, which is controlled by a contact management system 14. The database server 12 contains information on the callers who use the system 1. Each time that a caller uses the system 1, any relevant information about the caller is stored in a database 16 within the database server 12. The next time that the caller uses the system 1, the collected information in the database 16

will be available for use along with the additional information obtained by the IVR in order to generate a response to the request.

The routing switch 8 may also be in communication with a hub 18 for distribution of the information. The hub 18 may be connected to any number of workstations 20 or other devices for displaying the information or for formulating a response. For example, if a caller wishes to speak to a person, any information that the caller has input to the system 1 during the call as well as any relevant information from the database 16 will be transferred to the person responding to the request. Each time the caller is transferred to another person, or between persons and computers, the relevant information will be transferred also.

Figure 2 is preferably identical to the embodiment of Figure 1, with the added ability to communicate with at least one external, secondary information source. As in the above description, a request 2 is sent to the system. The process for responding to the request follows the same steps as described for Figure 1. For a complex request, such as, for example, a credit card application, additional information not available from the caller or from the database 16 may be required. In such a case, the system 1 may be provided with the ability to retrieve the information from another source.

As can be seen in Figure 2, the system is designed to communicate with one or more outside sources, such as credit bureaus 30. A signal from the routing switch 8 preferably passes through a firewall 22 and into a router 24. The signal then passes through a DSU/CSU 26 before reaching the credit bureaus 30. Various information about a caller, such as credit history 34 and credit scoring 32, may be obtained from the credit bureaus 30. The system 1 may then use the data from the credit bureaus 30 in

conjunction with the information it already possesses to calculate a proper response to the request. Having the ability to access this additional information allows the system 1 to provide actual calculated responses. Without this ability, the system 1 would only be able to provide a generic response based on the information it currently had available, and the caller would have to wait until the necessary additional information was obtained. In such a case, an automated or instantaneous response would be impossible, as a person would likely have to obtain the additional information necessary to reach a conclusion.

The present invention allows a business or other entity to respond to requests for information in a more timely and efficient manner, and to make automated responses to requests that previously required human interaction. By capturing all of the information input by a caller and storing the relevant information in a database, the amount of data and time required to respond to a request can be minimized. Additionally, by providing the system with the ability to obtain information from outside sources, more complex requests can be handled by the system. Now instead of merely collecting data about a caller for later action, the present invention collects caller data, compares the data to other existing data, dynamically decides which questions to ask the caller based on the data provided by the caller and in view of the data accessed at an additional source, and provides the caller with a resolution during the call. This resolution may be, by example, a decision to increase the caller's credit line on a credit card.

Figure 3 shows another preferred embodiment of the present invention in which an unit of work (UOW) information packet is created for each call. The UOW includes the information collected from the caller by the IVR and may also include the relevant information pulled from an existing database during the call. If an outside source, such

as a credit bureau is contacted during the call then the UOW may include this information also. The UOW is a unique record of the call and may be created in the centralized DBASE of the system. Data collected from these sources is written in real time to the UOW during the call. If the call is transferred to a live agent, the UOW goes with the call and the live agent thereby has access to all the information in the UOW. This is important because if the live agent has access to the answers the caller has provided before, then there is no need to repeat questions to the caller. The live agent can learn the caller's relevant information already collected and proceed to help the caller without unnecessary delay. The live agent may append data to the UOW that the live agent enters through his or her terminal keyboard as the live agent speaks with the caller. If the caller needs further assistance from another agent such as a supervisor, the call UOW may be transferred to the second agent for further handling and the entire data collected on the caller will be immediately available to the second agent via the UOW.

Preferably, the system of the present invention is constructed to enable the UOW to be created automatically for each call at the time the call is received, via software running at a computer in the system and in electronic communication with the IVR and other system hardware. The software may be activated by the IVR upon answering the call and may use an electronic date-time stamp or unique number to start a unique call record. Caller responses and database information may be stored in the UOW automatically by electronic data transmission through the IVR.

or at a switch in a long distance carrier, or by a CTI server,

The scope of the invention is not to be considered limited by the above disclosure, and modifications are possible without departing from the spirit of the invention as evidenced by the following claims.

What is claimed is:

1. A system for responding to a caller request, comprising:

a communications system including at least one IVR connected to interact with said caller;

a database including existing data electronically accessible by said IVR;

a source of additional data, said source of additional data electronically accessible by said IVR;

an unit of work packet for storing information collected from said caller by said IVR, relevant information from said database, and from said source of additional data, said unit of work packet adapted to be transmitted to a receiver in said system during said call;

a live operator station adapted to receive said unit of work packet during said call and adapted to be in communication with said caller;

means for dynamically selecting questions asked by said IVR to said caller based on caller responses to said IVR, based on said existing data, and based on said additional data in view of said caller responses;

means for resolving said caller's responses to provide said caller with a decision pertaining to said caller's request.

2. The system of Claim 1 wherein an IVR identifies the caller.

3. The system of Claim 2 wherein said IVR queries the caller for necessary information.

4. The system of Claim 3 wherein a database is employed to store information about the callers using the system.

- 95-4 *claim says*
claim 5 is only
claim computer
live agents can access this database in substantially real time *copy of 1/16*
5. The system of Claim 4 wherein said information obtained by said IVR is used to update and add to said database.

6. A system for responding to requests, said system comprising:

an IVR for identifying a requestor and for querying said requestor for relevant information;

an unit of work record for attaching said relevant information;

a routing switch in communication with said IVR;

a database including information relative to said requestor, said database also in communication with said routing switch such that information from both said IVR and said database can be combined and forwarded;

a hub in communication with said routing switch, for distributing the relevant information exiting the routing switch; and

a receiver adapted to receive said information from said hub and for responding to said requests.

7. The system of claim 6, wherein said IVR has the ability to recognize and respond to human speech.

8. The system of claim 6, wherein said receiver is a live person.

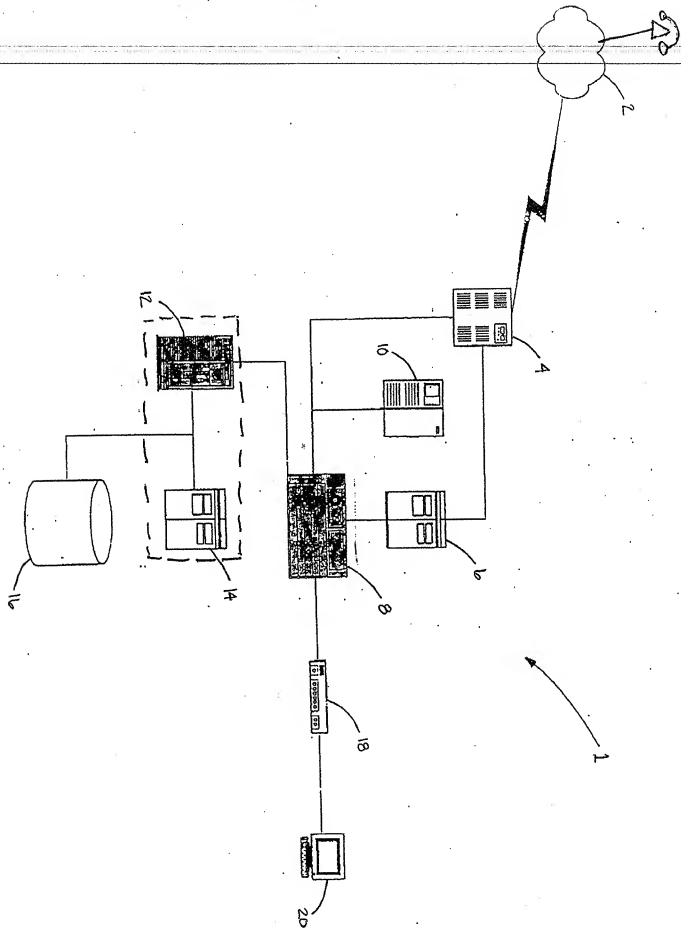


Figure 1

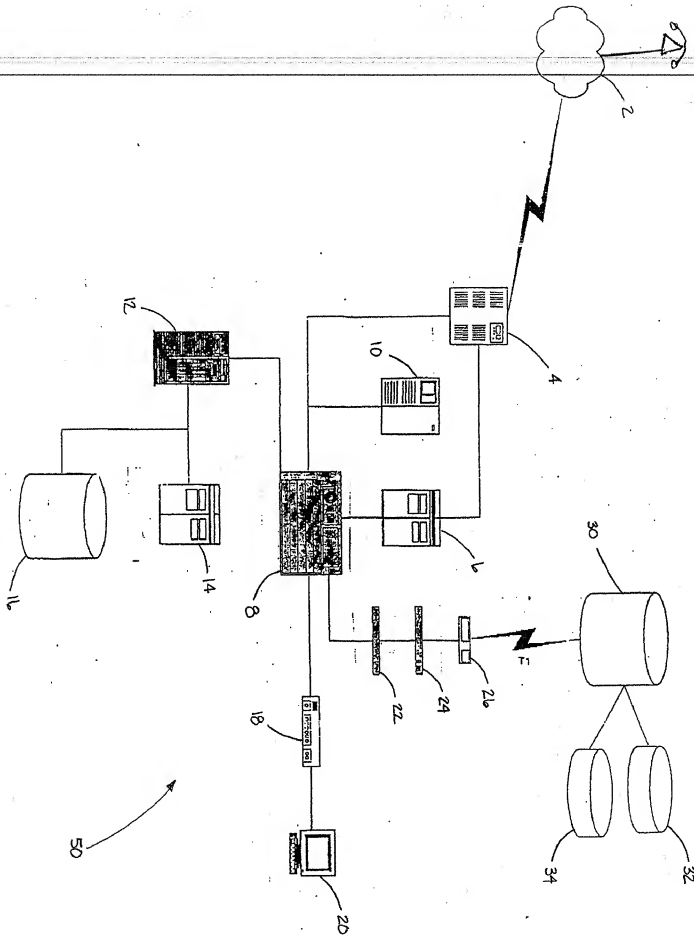


FIGURE 2

50

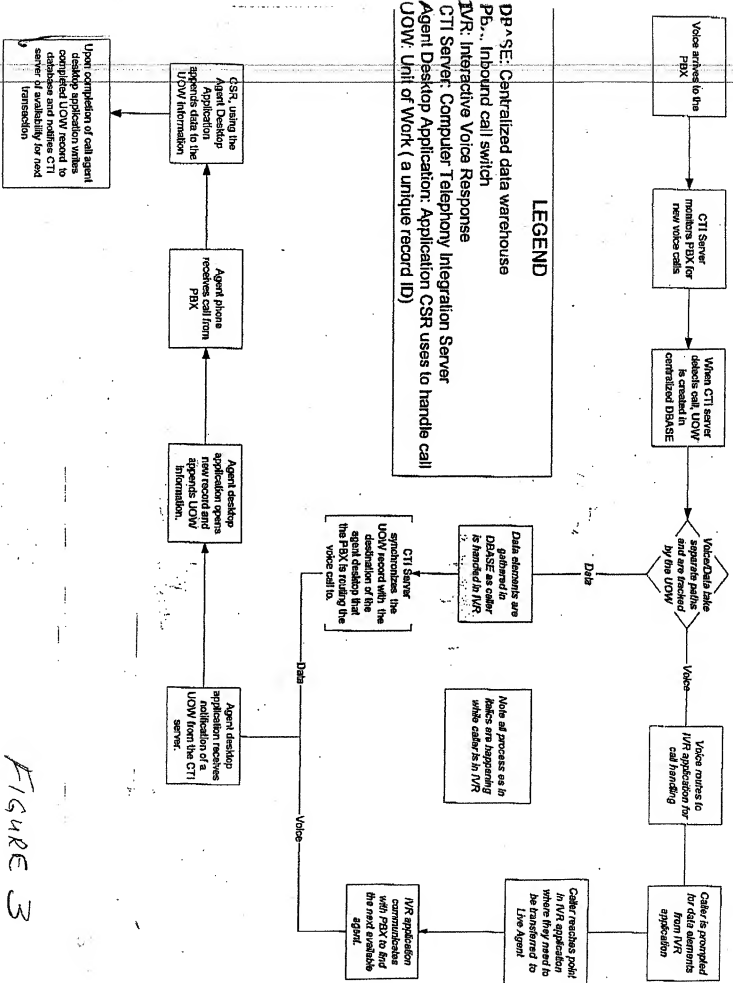


FIGURE 3

Exhibit D

Jun-23-99 07:38pm From=

T-010 P.01/14 F-078

STANDLEY & GILCREST LLP

Attorneys and Counselors at Law

495 Metro Place South, Suite 210
Dublin, Ohio 43017-5315
Telephone: (614) 792-5555
Facsimile: (614) 792-5536**FACSIMILE COVER SHEET**DATE: 6/23/99FACSIMILE NO.: 800-365-3500 x265TO: Ralph ReeseCOMPANY: Reese BrothersFROM: Jeff StandleyNumber of pages (including cover sheet) - (14) pages

SUBJECT: _____

NOTES: latest draft of patent applicationCONFIRMATION: ☐ by First Class Mail
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Tel line :
Name :

Job number : 047
Date : Jun-29 10:44am
To : 18003653500--265
Document pages : 14
Start time : Jun-29 10:44am
End time : Jun-29 10:51am
Pages sent : 14
Status : OK
Job number : 047

*** SEND SUCCESSFUL ***

*See Alan's
comment
from phone call
on 8/3/99
inside*

STANDLEY & GILCREST

LLP

Attorneys and Counselors at Law

495 Metro Place South, Suite 210
Dublin, Ohio 43017-3215
Telephone: (614) 792-8555
Facsimile: (614) 792-8556

FACSIMILE COVER SHEET

DATE: 6/23/99 FACSIMILE NO.: 800-365-3500 X265
TO: Ralph Reese
COMPANY: Reese Brothers
FROM: Jeff Standley
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*if system is capable
of sending all data
to agent terminal
we want to capture that
and even the scenarios
of only sending some
of all*

Exhibit F

Reese Brothers, Inc.
925 Penn Avenue, Sixth Floor
Pittsburgh, PA 15222-3883
412-355-0800 800-365-3500
Fax 800-365-3500 x265

reesebrothers

Ralph Reese
Vice President

CONFIDENTIAL FAX

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FAX	614-792-5536
TO:	Jeff Standley
FROM:	Ralph Reese
PAGES:	6+ cover = 7

Page 1

line 12 As the information requested becomes more complicated and the cost of person call handling greater, it is important to facilitate data input and enterprise wide data sharing of all data, including data newly created at and during the time of a call before the call is sent to persons. While fully automated self-service is often a goal, the complexity of many service offerings and the patience and skill of customers in providing self-service, typically result in many calls being unable to be fully automated. Therefore, when a call that begins as an automated call is routed to a person, it offers a great benefit if all data already provided by the caller is instantly also available to the person. By eliminating the need to repeat or re-enter data, including data provided just a few moments ago as well as the results of any manipulations of this data separately or in combination with other data such as real-time credit scoring or credit offer construction, the call is shorter and less costly and the caller is provided superior service. Also, the request can be routed more appropriately to a qualified person, by being able to access all data entered by the caller. [Delete last sentence "Callers want ..."]

19 ...recognizes the caller [and ...should it be "or"]

20 which creates a database of information about the caller and purpose of the call built from responses to questions provided by the caller during current the current access (and optionally past accesses) to the system, prior as well as subsequent to the routing of the call to a person.

25 Such a system, which preserves and makes immediately available to persons and enterprise processes all information newly created during the current call session, will save

Page 2

18 answers some or all of the questions

(21) prior to responding to all questions or prior to completion of the purpose of the call,

THIS IS A QUESTION>>>IT WOULD APPLY TO NUMEROUS OF THE SAME: instead of "the responses" should it read "any or all responses already entered"; "any of all the information entered by the caller" (p 3, line 1).....etc.

Page 2

18 answers some or all of the questions

21 prior to responding to all questions or prior to completion of the purpose of the call,

THIS IS A QUESTION>>>IT WOULD APPLY TO NUMEROUS OF THE SAME: instead of "the responses" should it read "any or all responses already entered"; "any of all the information entered by the caller" (p 3, line 1)....etc.

- X Page 3
12 information, including, for example, any and all responses entered via the IVR, even those entered during prior calls abandoned by the caller,

*Double
check*

- X 21 applications or dynamically created terms of an offer.

Page 6

X 1
line 9?

"will be available": if prior calls not available does this evade patent? Should it be "may"? Ditto

21

Does the CSU/DSU cause a problem? In a world of VPN (virtual private networks) are the devices the same? Or is this just an example anyway?

Page 8

(18) unique "number".....?identifier?

page 9

8

a[n] unit ✓

? { "means for dynamically selecting"is this necessary or part of IVR? IF the questions were static would it matter?

page 10

Hubs, etc. similar questions as above with DSU

Exhibit G

August 6, 1999

495 Metro Place South
Suite 210
Dublin, Ohio 43017
Telephone (614) 792-5555
Fax (614) 792-5536

Alan R. Truitt, President
Communications & Commerce Corp.
5245 College Drive
Murray, UT 84123

Ralph H. Reese, Vice President
Reese Brothers, Inc.
925 Penn Avenue
Pittsburgh, PA 15222

Re: Proposed U.S. Patent Application Entitled: MACHINE
ASSISTED SYSTEM FOR PROCESSING AND
RESPONDING TO REQUESTS
Inventors: Alan Truitt and Ralph Reese
Our reference: 1397-002


Dear Gentlemen:

Please find the enclosed draft application for MACHINE ASSISTED SYSTEM FOR
PROCESSING AND RESPONDING TO REQUESTS.

Please review the application to make sure that it accurately and completely describes
your invention. If not, please contact me. Otherwise, Alan should sign the enclosed forms
where indicated and send the entire package to Ralph for his signature. Please note that the
Assignment form must be notarized. Please forward the signed documents to me for filing with
the Patent & Trademark Office.

If there are any questions regarding the application or formal papers, please call me.

Very truly yours,



Jeffrey S. Standley

JSS/ht
Enclosure

MACHINE ASSISTED SYSTEM FOR PROCESSING AND RESPONDING TO REQUESTS

Inventors: Ralph H. Reese
Alan R. Truitt

5

BACKGROUND AND SUMMARY OF THE INVENTION

Many businesses, such as credit card companies, receive frequent requests for
10 information of a type which requires a person's response to certain questions. The ability
to provide this service via a telephone, the internet, or other various means is highly
desirous. As the information requested becomes more complicated and the cost of person
call handling greater, it is important to facilitate data input and enterprise wide data
15 sharing of all data, including data newly created at and during the time of a call before the
call is sent to persons. While fully automated self-service is often a goal, the complexity
of many service offerings and the patience and skill of customers in providing self-
service, typically result in many calls being unable to be fully automated. Therefore,
when a call that begins as an automated call is routed to a person, it offers a great benefit
if all data already provided by the caller is instantly also available to the person. By
20 eliminating the need to repeat or re-enter data, including data provided just a few
moments ago as well as the results of any manipulations of this data separately or in
combination with other data such as real-time credit scoring or credit offer construction,
the call is shorter and less costly and the caller is provided superior service. Also, the
request can be routed more appropriately to a qualified person, by being able to access all
25 data entered by the caller.

Ideally, the goal is to facilitate the response by minimizing the amount of data that must be re-created or created after the request is submitted, shorten the time required to process the response after it is received, and/or to fully automate the response to the request. It is advantageous, therefore, to have a system that recognizes the caller, and/or
5 which creates a database of information about the caller and purpose of the call built from responses to questions provided by the caller during the current access (and, optionally, past accesses) to the system, prior as well as subsequent to the routing of the call to a person. Each time the caller uses the system, additional, relevant information may be stored and outdated information may be updated within the database. All of the
10 information from the database, as well as the information gained from the responses of the caller during the current use of the system, may then be made available to postulate a resolution. Such a system, which preserves and makes immediately available to persons and enterprise processes all information newly created during the current call session, will save considerable time in responding to a caller, and may allow for responses to
15 more complex requests.

The present invention satisfies the need for such a response system. When a person requests information from a business, for example, over the telephone, the call may be answered by an ACD (automatic call distributor) and transferred to an IVR (interactive voice response unit, also sometimes referred to as an ARU—automated
20 response unit, or VRU—voice response unit). The IVR may be programmed to ask the caller questions and processes the caller's responses, until the caller answers all questions, abandons the call, or requests to speak to a person. The caller may respond to the questions by one of several methods. For example, responses may be entered by

speaking in which case the IVR records the caller responses or has a speech recognition capability for determining the caller's responses, or by receiving touch tones from the caller responding by pushing buttons on the telephone touchpad. All information provided by the caller is captured and transformed preferably electronically (but may also

5 be by manual entry via a computer keyboard into a computer system), from the initial input signal to a form that is usable in responding to the request. The information entered by the caller may be used for retrieving additional information from a preexisting database, constructed during the caller's past use of the system and/or constructed from prior data entry from other means, such as a live operator's manual entry of data.

10 Once the caller answers some or all of the questions, the request may be transferred to a person or a computer, either of which is able to access and use all of the information entered by the caller and retrieved from the database in order to formulate a response. If the caller terminates use of the system, the caller responses already entered may be retained in the database for future use. If it is required that the request be

15 transferred to a second, or additional person or computer, or back and forth between persons and computers, the information entered by the caller and retrieved from the database will be accessible and usable in responding.

The system of the present invention is not limited to requests made by telephone. Requests may be submitted by sound, speech, electronic text, email, fax, internet, or any

20 input from a human, machine, telephone, or computer that is processed by making use of a voice or data network or a device embedded in or attached to a network. As such, a caller may also respond to questions posed by the system in ways not involving the

telephone. For example, a caller may make an entry into a computer-based application, or utilize another type of signaling device such as a tone generator.

The system of the present invention eliminates the redundant entering of information each time a caller accesses the system or moves from point to point in the system. By recognizing the caller, and retrieving relevant information, including, for example, any and all responses entered via the IVR, even those responses entered during prior calls abandoned by the caller, (that may be in , a preexisting database), a minimum amount of new information is required from the caller before a response can be generated. Thus, an accurate response can be provided to a caller in much less time.

Additionally, because a significant amount of information about a caller may be maintained in a database, the system may also include the ability to process requests that require conclusions about the caller. For example, the system may further include the ability to obtain information from outside sources such as various credit bureaus, and to use this information in conjunction with the information retrieved from the database to perform the calculations necessary for the approval or denial of loans or credit card applications or dynamically created terms of an offer. The system in this manner becomes a vehicle for negotiations of transactions. Instead of merely accomplishing static data collection from caller responses, the present invention provides a system for dynamic negotiations to conclude a transaction while the system is live with the caller.

By creating a packet of information in a computerized record, the caller's information (entered during the call, collected from a database during the call, or collected from an outside source during the call) can travel with the call and be immediately accessible to all users of the system to respond to the caller's request.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a portion of the preferred embodiment of the present invention,
5 wherein the system is configured to respond to requests for information;

Figure 2 depicts an alternate embodiment of the present invention, wherein the
system of Figure 1 is further provided to communicate with secondary information
sources, such as credit bureaus; and,

Figure 3 shows a schematic representation of a preferred embodiment of the
10 system of the present invention in which a unit of work information packet is created and
travels with a call.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

A portion of the preferred embodiment of the system 1 of the present invention can be seen in Figure 1. A caller request which may come through the public switched telephone network 2 is made to the system 1 via telephone, fax, internet, or various other means. An ACD 4 answers the request and transfers it to an IVR 6. The IVR 6 is able to identify the caller by responses the caller provides and/or by ANI (automatic number identification) verification known to those of ordinary skill in the art. The IVR 6 asks the caller questions and processes the caller's responses, until the caller answers all of the required questions, terminates the request, or requests to speak to a person. The responses to the questions asked by the IVR may be entered by any of various means, depending on the device used to make the request. For example, sound, speech, electronic text, email, fax, internet, or any input from a human, machine, telephone, or computer that is processed by making use of a voice or data network or a device embedded in or attached to a network may be used to respond to the IVR. The IVR 6 preferably has natural language voice recognition, such that it is able to respond to human speech. Once the required information is obtained from the caller, the IVR 6 routes the request to a server 10 coupled to a routing switch 8. Depending on the request made by the caller, additional information may be needed to formulate a response.

The routing switch 8 is also coupled to a database server 12, which is controlled by a contact management system 14. The database server 12 contains information on the callers who use the system 1. Each time that a caller uses the system 1, any relevant information about the caller is stored in a database 16 within the database server 12. The next time that the caller uses the system 1, in a preferred embodiment of the present

invention the collected information in the database 16 will be available for use along with the additional information obtained by the IVR in order to generate a response to the request.

The routing switch 8 may also be in communication with a hub 18 for distribution
5 of the information. The hub 18 may be connected to any number of workstations 20 or other devices for displaying the information or for formulating a response. For example, if a caller wishes to speak to a person, any information that the caller has input to the system 1 during the call as well as any relevant information from the database 16 will be transferred to the person responding to the request. Each time the caller is transferred to
10 another person, or between persons and computers, the relevant information may be transferred also.

Figure 2 is preferably identical to the embodiment of Figure 1, with the added ability to communicate with at least one external, secondary information source. As in the above description, a request is sent to the system. The process for responding to the
15 request follows the same steps as described for Figure 1. For a complex request, such as, for example, a credit card application, additional information not available from the caller or from the database 16 may be required. In such a case, the system 1 may be provided with the ability to retrieve the information from another source.

As can be seen in the embodiment shown in Figure 2, the system is designed to
20 communicate with one or more outside sources, such as credit bureaus 30. A signal from the routing switch 8 preferably passes through a firewall 22 and into a router 24. The signal may then pass through a DSU/CSU 26 before reaching the credit bureaus 30. Various information about a caller, such as credit history 34 and credit scoring 32, may

be obtained from the credit bureaus 30. The system 1 may then use the data from the credit bureaus 30 in conjunction with the information it already possesses to calculate a proper response to the request. Having the ability to access this additional information allows the system 1 to provide actual calculated responses. Without this ability, the
5 system 1 would only be able to provide a generic response based on the information it currently had available, and the caller would have to wait until the necessary additional information was obtained. In such a case, an automated or instantaneous response would be impossible, as a person would likely have to obtain the additional information necessary to reach a conclusion.

10 The present invention allows a business or other entity to respond to requests for information in a more timely and efficient manner, and to make automated responses to requests that previously required human interaction. By capturing all of the information input by a caller and storing the relevant information in a database, the amount of data and time required to respond to a request can be minimized. Additionally, by providing
15 the system with the ability to obtain information from outside sources, more complex requests can be handled by the system. Now instead of merely collecting data about a caller for later action, the present invention collects caller data, compares the data to other existing data, dynamically decides which questions to ask the caller based on the data provided by the caller and in view of the data accessed at an additional source, and
20 provides the caller with a resolution during the call. This resolution may be, by example, a decision to increase the caller's credit line on a credit card.

Figure 3 shows another preferred embodiment of the present invention in which an unit of work (UOW) information packet is created for each call. The UOW includes

The scope of the invention is not to be considered limited by the above disclosure, and modifications are possible without departing from the spirit of the invention as evidenced by the following claims.

What is claimed is:

1. A system for responding to a caller request, comprising:

a communications system including at least one IVR connected to interact with said caller during a call;

a database including existing data electronically accessible by said IVR;

a source of additional data, said source of additional data electronically accessible by said IVR;

an unit of work packet for storing information collected from said caller by said IVR, relevant information from said database, and from said source of additional data, said unit of work packet adapted to be transmitted to a receiver in said system during said call;

a live operator station adapted to receive said unit of work packet during said call and adapted to be in communication with said caller;

means for dynamically selecting questions asked by said IVR to said caller based on caller responses to said IVR, based on said existing data, and based on said additional data in view of said caller responses;

means for resolving said caller's responses to provide said caller with a decision pertaining to said caller's request.

2. The system of Claim 1 wherein an IVR identifies the caller.

3. The system of Claim 2 wherein said IVR queries the caller for necessary information.

-
4. The system of Claim 3 wherein a database is employed to store information about the callers using the system.
 5. The system of Claim 4 wherein said information obtained by said IVR is used to update and add to said database, in substantially real time, and said updated database is accessible via an agent's computer terminal during said call.
 6. A system for responding to requests, said system comprising:
 - an IVR for identifying a requestor and for querying said requester for relevant information;
 - an unit of work record, for attaching said relevant information to said unit of work record;
 - a routing switch in communication with said IVR;
 - a database including information relative to said requester, said database also in communication with said routing switch such that information from both said IVR and said database can be combined and forwarded;
 - a device in communication with said routing switch, for distributing the relevant information and the database information exiting the routing switch; and
 - a receiver adapted to receive said relevant information and said database information from said device during said call and for responding to said requests.
 7. The system of claim 6, wherein said IVR has the ability to recognize and respond to human speech.
 8. The system of claim 6, wherein said receiver is a computer terminal at a live agent's desktop.

ABSTRACT

A system is disclosed in which a caller may provide certain information during a call to an interactive voice response unit, prior known information about the caller may be stored in a computerized database, and an agent terminal may access the information in the database and collected at the interactive voice response unit, during the call, such that information collected from the caller before arriving at the agent does not have to be recollected from the caller by the agent.

Exhibit H

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City DUBLIN	State OH	ZIP CODE (Required) 43017	
Sent by (Name/Dept) Jeff Standley		Phone Number 614-792-5555	
TO (Company) Communications & Commerce Corp.		<input type="checkbox"/> Bill Receiver <small>Airborne Receiver account no.</small> <input type="checkbox"/> Bill 3rd Party <small>Airborne Customer account no.</small> <input type="checkbox"/> Paid In Advance <small>Check No. \$</small>	
Street Address 5415 College Drive		Billing Reference will appear on invoice 1397-002	
City Murray	State IL	ZIP CODE (Required) 62423	
Attention: (Name/Dept) Alan R. Trout		Phone Number (Important) 1397-002	
Description Legal Documents		6 # of Pages 17 Weight (LBS) 3 One box must be checked <input checked="" type="checkbox"/> Letter <input type="checkbox"/> Express <input type="checkbox"/> Other <input type="checkbox"/> Freight	
7 THANK YOU FOR SHIPPING WITH AIRBORNE EXPRESS Sender's Signature Weather M. Trout Date 8-6-99 Airborne Signature _____ Route No. _____ Date _____ Time _____		Special Instructions <input type="checkbox"/> Saturday Delivery <input type="checkbox"/> Hold at Airborne <input type="checkbox"/> Extra Charge <input type="checkbox"/> Express Only <input type="checkbox"/> Not available at all locations <input type="checkbox"/> Lab Pack <input type="checkbox"/>	
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Exhibit I

ASSIGNMENT

This assignment is made by Ralph H. Reese, residing at 330 Sampsonia Way, City of Pittsburgh, State of Pennsylvania 15212 and Alan R. Truitt, 14049 South Old Saddle Road, City of Draper, State of Utah 84020, ("ASSIGNORS") to Communications & Commerce Corporation, a corporation organized under the laws of the State of Utah and having an office at 5245 College Drive, City of Murray, State of Utah 84123 ("ASSIGNEE").

FOR ONE U.S. DOLLAR (\$1.00) AND FOR OTHER GOOD AND VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, ASSIGNORS do hereby sell, assign and transfer to ASSIGNEE the entire right, title and interest, together with all rights of priority, in and to our invention entitled CONCRETE AND FIBER REINFORCED PLASTIC STRUCTURAL ELEMENT AND PROCESS OF MANUFACTURE, as described and/or claimed in an application for patent of the United States of America, Serial No. _____, filed contemporaneously herewith. A Declaration for the application has been executed on August 16 & 17, 1999. ASSIGNORS further do hereby sell, assign and transfer to ASSIGNEE the entire right, title and interest, together with all rights of priority, in and to ASSIGNORS' invention as described and/or claimed in any and all applications for patents based on the invention, including divisionals, continuations, renewals, substitutes and reissues thereof, and all rights of priority resulting from any of these patent applications, as well as all foreign counterparts and extensions thereof, together with all patents issuing on any of these applications for the full terms of all of the patents which may be granted on the invention.

~~ASSIGNORS HEREBY AUTHORIZE ASSIGNEE to make applications for, to prosecute~~

such applications, and to receive patents for the invention in the United States and any foreign countries, in ASSIGNEE's name.

ASSIGNORS HEREBY PROMISE AND AGREE that ASSIGNORS will execute or procure any further necessary assurance of title to the invention and any patents which may issue on the invention. ASSIGNORS will, at any time, upon the request and without further consideration, but at the expense of ASSIGNEE, deliver any testimony in any legal proceedings and execute all papers and do all other things that may be necessary or desirable to perfect the title to the invention, or any patents which may be granted therefor, in ASSIGNEE, its successors, assigns, or other legal representatives. ASSIGNORS will, at any time, upon the request and at the expense of ASSIGNEE, execute any continuations, divisionals, reissues, or any other additional applications for patents for the invention or any part or parts thereof and any patents issuing thereon are hereby assigned to ASSIGNEE. ASSIGNORS will make all rightful oaths, and do all lawful acts required for procuring and enforcing any of the patents, without further compensation, but at the expense of ASSIGNEE, its successors, assigns or other legal representatives.

ASSIGNORS HEREBY AUTHORIZE AND REQUEST the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States for the invention, resulting from any of the aforesaid applications to the ASSIGNEE.

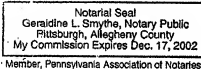


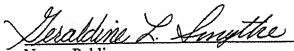
Ralph H. Reese

STATE OF PENNSYLVANIA :
: SS:
COUNTY OF Allegheny :

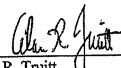
Before me personally appeared Ralph H Reese, to me known to be the same person described in and who executed the foregoing instrument, and acknowledged that he executed the same, of his own free will and for the purposes set forth.

Sworn to before me and subscribed in my presence this 17th of August 1999.





Notary Public

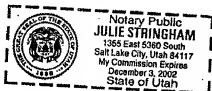


Alan R. Truitt

STATE OF UTAH :
: SS:
COUNTY OF SALT LAKE :

Before me personally appeared Alan R. Truitt, to me known to be the same person described in and who executed the foregoing instrument, and acknowledged that he executed the same, of his own free will and for the purposes set forth.

Sworn to before me and subscribed in my presence this 16th of August, 1999.





Notary Public

Exhibit J

Express Mail No.: EL039913661US

Date of Deposit: August 20, 1999

DECLARATION
AND
POWER OF ATTORNEY

As below named inventors, we hereby declare that:

Our residences, post office addresses and citizenship are as stated below next to our names.

We believe we are the original, first, and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled MACHINE ASSISTED SYSTEM FOR PROCESSING AND RESPONDING TO REQUESTS the specification of which:

(check one) ☒ is attached hereto.

☐ was filed _____ as
Application Serial No. _____
and was amended on _____ (if applicable).

We hereby state that we have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of the invention claimed in this application, in accordance with Title 37, Code of Federal Regulations, §1.56(a) and (b).

We hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority
Claimed

(Number)

(Country)

(Day/Month/Year Filed)

☐ ☐
Yes No

We hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulation, §1.56(a) and (b) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending
abandoned)

We hereby claim the benefit under 35 U.S.C. 119(e) of any United States Provisional Application listed below:

None
(Application Serial No.)

(Filing Date)

We hereby appoint Roger A. Gilcrest, Reg. No. 31,954, James L. Kwak, Reg. No. 41,133, Donald O. Nicky, Reg. No. 29,092, Jeffrey C. Norris, Reg. No. 42,039, or Jeffrey S. Standley, Reg. No. 34,021, c/o Standley & Gilcrest LLP, 495 Metro Place South, Suite 210, Dublin, Ohio 43017-5315, Telephone No. (614) 792-5555 our attorneys, with full power in each of them, of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. All correspondence should be sent to the attention of **Jeffrey S. Standley, Esq.** at the address above.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of inventor _____

Ralph H. Reese

Date _____

Residence _____
Pittsburgh, Pennsylvania

Citizenship _____
United States of America

Post Office Address _____
330 Sampsonia Way

Full name of inventor


Alan Truitt

Date

8/16/99

Residence

Draper, Utah

Citizenship

United States of America

Post Office Address

14049 South Old Saddle Road

Exhibit K

RECEIVED

AUG 19 1999

STANDLEY & GILCREST

Attorneys and Counselors at Law

August 6, 1999

STANDLEY & GILCREST
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Suite 210
Dublin, Ohio 43017
Telephone (614) 792-5555
Fax (614) 792-5536

Alan R. Truitt, President
Communications & Commerce Corp.
5245 College Drive
Murray, UT 84123

Signed as requested.

Ralph H. Reese, Vice President
Reese Brothers, Inc.
925 Penn Avenue
Pittsburgh, PA 15222

Re: Proposed U.S. Patent Application Entitled: MACHINE
ASSISTED SYSTEM FOR PROCESSING AND
RESPONDING TO REQUESTS
Inventors: Alan Truitt and Ralph Reese
Our reference: 1397-002


Dear Gentlemen:

Please find the enclosed draft application for MACHINE ASSISTED SYSTEM FOR
PROCESSING AND RESPONDING TO REQUESTS.

Please review the application to make sure that it accurately and completely describes
your invention. If not, please contact me. Otherwise, Alan should sign the enclosed forms
where indicated and send the entire package to Ralph for his signature. Please note that the
Assignment form must be notarized. Please forward the signed documents to me for filing with
the Patent & Trademark Office.

If there are any questions regarding the application or formal papers, please call me.

Very truly yours,



Jeffrey S. Standley

JSS/ht
Enclosure

Exhibit L

Client & Matter Nos. REE1397-002 Serial No. _____ Filing Date: 08/20/99

Applicant: Reese et al

Title/Inventor: MACHINE ASSISTED SYSTEM FOR . . .

THE MAIL ROOM STAMP BELOW ACKNOWLEDGES RECEIPT OF THE FOLLOWING
DOCUMENTS ON THE DATE INDICATED ON THE MAIL ROOM STAMP.

- ☒ App'n for Patent with:
 12 pg of specification
 3 pg of Claims
 3 pg of Drawings Informal/Formal
☒ Inventor's Declaration & Power of Atty.
☐ Verified Small Entity Statement of Inventor
☐ Verified Small Entity Statement of _____
☐ Information Disclosure Statement
☐ Response to Notice of Missing Parts
☐ Amendment
☐ Letter to Draftsman
 _____ pg Formal Drawings
☐ Issue Fee Form
☒ Assignment & Assignment Recordation Sheet
☒ Check No. 11964-309 00
☒ Certificate of mailing date of 08/20/99
- ☐ App'n for TM/SM with drawing and _____ specimens of mark
☐ Use based
☐ ITU
☐ App'n for Copyright Registration and _____ deposits.
☐ Request for _____ Extension of time
☐ Amendment to Allege Use
☐ Statement of Use
☒ Utility Pat. App Trans
☒ Fee Transmittal
☐ _____
☐ _____
☐ _____



Exp. Rec. # ELO39713661US

Exhibit M

Communications & Commerce

Proposal to

Fleet Credit Card Services

SEPTEMBER 1998



comm·comm
Communications & Commerce

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EXECUTIVE SUMMARY

From the inception of CommComm, the central theme has been to integrate automation processes with customer care representatives, to create a lower cost yet more effective and satisfying solution for the end user.

CommComm's goal is to handle customer service and technical support transactions entirely with automation whenever possible. For calls where a live agent is needed, we use IVR automation to capture information at the beginning of each transaction to provide the customer care representative a head start in completing the support process.

Although our name is relatively new, we have the management, capital and strategic alliances to make us a major force in the increasingly competitive customer care industry. Along with our parent company, Reese Brothers (in business for 25 years), we already have over 1,200 workstations of capacity among seven different locations available for our clients.

CommComm was founded on the following principles:

Innovation	Quality
Integrity	Respect
Opportunity for career advancement	Superior results
Proactive account management	Teamwork

First and foremost, we will deliver what we promise. Great ideas and concepts do not realize their value until they are effectively delivered. Our strategy is to...

- ❑ Attract and retain the most experienced and successful talent available today in the call center industry (*our collective management team has orchestrated the implementation of more than 20 different communications centers for clients spanning a wide variety of vertical markets*)
- ❑ Lead in technology that adds value
- ❑ Nurture a superior environment, featuring an unmatched emphasis on training highly skilled representatives and intelligent applications of the best and newest technology
- ❑ Obtain the highest level of performance while adding maximum value

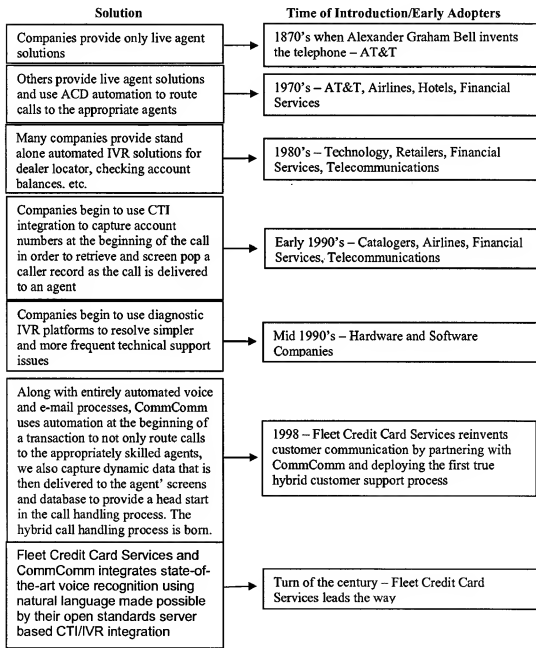
CommComm's information technology strategy is client server, Windows NT-based and employs an Oracle database. Our telephony infrastructure consists of a Lucent G3R ACD and a robust CTI integration using IBM's CallPath and IBM's DirectTalk IVR on a UNIX server.

The most important advantages of our Unix based client server architecture for our self-service IVR platform, as compared to a PC-based architecture, are as follows:

- ❑ scalable to at least 96 ports per box

- ❑ database access is several times faster due to multi-processor configuration
- ❑ management of system is much easier
- ❑ much more open to other software modules than the Dialogic PC-based platforms
- ❑ the ability to deploy natural language voice recognition as it becomes available in the future

The key difference in our approach, as it relates to the advancement and evolution of Computer Telephony Integration and IVR technology, is illustrated below:



TECHNOLOGY PLATFORM

Our ability to take advantage of the best technology, without the common limitations driven by compatibility with legacy systems, has enabled us to create a very robust call tracking and reporting environment which is highly scalable and internet-enabled.

We are experts in integrating complex and diverse processes into a sophisticated, yet intuitively navigated system. The technical systems we employ are as follows:

- Open systems client/server architecture
- Windows NT desktop and NT servers
- Fully integrated Graphical User Interface
- Lucent G3R ACD
- Oracle relational data base
- IBM's CallPath for CTI and IBM's DirectTalk IVR on an IBM RS6000 running Unix
- Intuitive database-driven scripting; fully customizable
- Intelligent skills-based call routing and screen pops based on ANI, customer ID or customer prompted/entered info
- ACD and call tracking system fully integrated resulting in 100% reconciliation and complete data sets
- Robust computer telephony integration including internet-enabled call handling
- Direct connectivity and screen synchronization from our call center to our clients' customers via their website
- Fault-tolerant redundant systems with complete UPS and generator backup

OUR SUPERIOR REPORTING CAPABILITY

Another unique capability CommComm offers our clients is a truly integrated reporting platform.

What do we mean by true integration? Today, service bureaus (and in-house technology centers) divide reporting into two camps: ACD and customer contact reports from the contact management system. CommComm's reporting capability, featuring an Oracle database on the back-end, blends all of the components of the customer communication process. The ACD, IVR, contact management system and the internet /email all feed this master data base. Blending information in this manner provides a dramatic enhancement in trend, ROI, agent performance and customer satisfaction analysis, such as....

- ❑ customer purchase behavior sorted by hold time
- ❑ real-time production reports for supervisors
 - average call length by agent sorted by conversion percentage
 - average length of conversions versus inquiries
- ❑ technology ROI
 - total conversion (IVR and live agent combined) sorted by amount of time spent in the IVR
 - conversion percentage sorted by amount of time spent in the IVR
 - customer satisfaction sorted by amount of time spent in the IVR
 - abandonment percentage sorted by IVR path

Along with cultivating and providing meaningful knowledge, rather than mere information, our report distribution capabilities are as follows:

- ❑ Real-time access to all call tracking/disposition information for our call center supervisors
- ❑ Real-time client reporting accessible via the internet
- ❑ Activity reports tracking and integrating web, call center (both switch and data capture), IVR and e-mail transactions

KEY PERSONNEL

CommComm would house the Fleet Credit Card Services account at our newest state-of-the-art facility in Salt Lake City, Utah. With over 360 stations of capacity, CommComm can offer Fleet Credit Card Services the ability to expand service rapidly.

CommComm's management team is **uniquely qualified** to partner with Fleet Credit Card Services in launching new services and capabilities. Along with the rest of our seasoned management team, the following individuals will add experience and valuable insight on behalf of Fleet Credit Card Services.

- Client Services Account Executive
- Lead Programmer for custom IVR/script development
- Systems engineer for linking systems
- Recruitment Manager
- Training Manager
- Quality Assurance Coordinator

SERVICE OBJECTIVES

- ❑ Support all forms/vehicles of customer communications
 - Live customer service phone representatives
 - Internet or on-line service e-mail
 - IVR/automated attendant
 - Facsimile
 - Interactive video kiosk
- ❑ Design spacious, ergonomically advanced call centers
 - Liven up call center architecture and geometry of seating layout
 - Showcase the technology center
 - Make ergonomic function and form the highest priority
 - Allow workers to sit or stand through adjustable keyboard stands
 - Use larger monitors and color coded screens
 - Superior environments attract and retain superior people
- ❑ Enhance the entire client experience / Convert clients into advocates
- ❑ Build an organization made up of experts in each unique discipline
- ❑ Pricing methodology with performance incentives
- ❑ Build turnkey customer communications centers

ENHANCING THE ENTIRE CLIENT EXPERIENCE

CLIENT SERVICES ACCOUNT TEAM IS CRITICAL

- Consultative approach
- Account team incentives based on client satisfaction
- Sales and client services are equipped with pagers for maximum availability
- Orchestrate involvement of all departments to leverage the depth, know-how and teamwork of our organization
- Make it easy and productive for clients to work with us
 - document everything
 - meet commitments/deliver what is promised
 - distribute real-time statistics via the internet
 - provide guest offices with on-line workstations
- Conduct quarterly reviews
- Provide clients with meaningful analysis of cost savings from features and benefits in working with us

QUALITY ASSURANCE

CommComm understands that quality customer care begins with quality people. Your customers' perceptions are shaped by their interactions with Fleet Credit Card Services. Whether this experience is positive or negative depends on the representative who receives their call. We will work closely with Fleet Credit Card Services, as a partner, to ensure the quality of your program and your representatives.

CommComm will design and implement a comprehensive quality assurance (QA) plan according to Fleet Credit Card Services and CommComm standards. The marks of a successful QA process are communication, measurement and documentation.

CommComm has the resources, tools, practices and policies in place to ensure Fleet Credit Card Services's quality standards. Some of these include: high quality voice and data monitoring capabilities, in-house and independent focus group methods, in-house and independent surveys and benchmarking studies.

CommComm's quality is managed by our own in-house quality assurance department. Our quality assurance specialists listen to calls and view representatives' data screens in real time. Each evaluation is scored electronically. Managers, supervisors, and trainers access these reports, enabling them to be proactive in coaching and training opportunities.

CommComm employs an on-line prompting system which minimizes the training and call handling time. Built into the system is the inability of the agent to proceed before all necessary information is received from the customer.

- Audio-visual monitoring
- Separately staffed and managed QA organization
- Customized evaluation process tailored for each client
- Agent focus groups are used to further evaluate the effectiveness of the script and provide valuable information regarding customer reactions, responses, etc.
- Evaluations trigger coaching and training updates
- Scores are included in employee files and weigh heavily in the performance review process
- Remote client monitoring

SECURITY

CommComm's operations centers are built and managed with a high level of security. Access to the call centers and other critical internal departments is controlled by electronic card recognition pads. Each employee's access card is customized to provide the employee access to areas for which they are authorized. All access is tracked and sensitive areas are made available only to mission critical personnel.

Access to the computer system is controlled through sophisticated multi-level network security. This allows CommComm to control access to particular programs as well as data files. User passwords are changed on a regular basis; sharing of passwords is prohibited. Upon termination of any employee, CommComm's Network Administrator is notified and immediately removes that user from the network. Relevant passwords are then changed and system integrity is verified. For authorized access, CommComm allows clients and other third parties to dial-in via high-speed modem to send or receive data (batch or real-time) and to monitor agent performance in a real-time mode.

CommComm's architecture also allows on-line access via dedicated phone lines to authorized clients and third parties. It is important to note that parties with access to CommComm's system can only access files for which they have password clearance.

DISASTER RECOVERY PLANS

Information/Phone systems — CommComm's phone switches and servers are completely fault tolerant with redundancy of processors, power supplies, hard disks and other mission critical components. CommComm employs multiple levels of system backups, should a power outage hit one of our facilities. The main source of this back-up is an Uninterruptible Battery Power Supply (UPS). This backbone is the starting point for CommComm's quadruple redundancy process. All power from the network and phone switches goes directly to UPS battery back-ups. Our UPS systems cover a rated service strength of a minimum of sixty minutes of power back-up. Power conditioners are built into each UPS system, therefore outside power never touches any of CommComm's equipment. Power surges or spikes do not effect this redundant system.

Operational functions — CommComm has also installed a diesel standby back-up generator. This generator has a minimum of 24 hours of fuel capacity. This model also allows CommComm to refuel the generator as often as necessary, without stopping the generator. The generator powers the entire computer facility, LAN, workstations, lighting and security systems.

LANGUAGE CAPABILITY

CommComm provides extensive capabilities to help our clients communicate with their customers in virtually any language.

Our multilingual services are staffed by native speakers who have lived in country and understand the nuances of language and culture, helping our clients bridge the culture gap.

Our Salt Lake City facility, benefiting from its proximity to one of the world's highest acclaimed language schools and population of returning missionaries, can support an array of over 30 different languages including:

- ☐ Chinese (Mandarin and Cantonese)
- ☐ English
- ☐ French
- ☐ German
- ☐ Hindi
- ☐ Italian
- ☐ Japanese
- ☐ Russian
- ☐ Spanish
- ☐ Vietnamese

ATTACHMENTS

SENIOR MANAGEMENT PROFILES

Alan Truitt, President

As President of Communications & Commerce, Mr. Truitt is responsible for providing strategic direction, business development and operational guidance. With 12 years experience in successfully orchestrating and managing customer care programs, he has built a solid reputation for being an innovative strategist, who knows how and when to apply appropriate technology and human talent. Known for conducting business with the highest integrity and professionalism, he has developed solid relationships with numerous Fortune 100 technology and telecommunications companies.

Mr. Truitt's professional experience covers many diverse areas in the customer care industry. Prior to joining Communications and Commerce, he was instrumental in developing the Technology Services Division at TeleTech. He was the driving force behind TeleTech's development of database driven scripting and intuitive knowledgebase navigation. He began his teleservices career with MCI, in client services, where he worked his way into upper management in business development in less than 2 years. While at MCI, he created the concept for and oversaw the development of various successful teleservices programs. He has also worked independently as an outsourcing consultant, advising Silicon Valley executives in how to best utilize the services of an outside vendor in concert with their internal systems.

Alec Brecker, Vice President of Operations

Alec Brecker is Vice President of Operations for Communications and Commerce. He is responsible for the design, implementation and management of all areas of call center management. With an extensive background in operations, he specializes in telecommunications technology as it applies to customer support applications.

Prior to joining Communications and Commerce, Mr. Brecker was the Director of Technical Support at Visioneer, Inc., a high-tech leader of paperless management systems. His initiatives included implementing a new call tracking system, an automatic technical support system, a fee based technical support program, and

interactive support systems on the World Wide Web. He dedicated his tasks to utilizing technology in order to reduce expenditures and create an efficient technical support and customer service operation.

Mr. Brecker also served as Senior Operations Director at TeleTech Telecommunications, Inc. Managing over 800 employees in a multi-location environment, he provided technical support and customer service for several Fortune 500 clients. In addition, he was responsible for implementing strategic technology to improve the call center operations. To this end, he directed the implementation of IVR and ACD routing, the design of database scripting functions for various call center applications, and the integration of on-line and web technical support operations.

Joe DeFranks, Vice President of Business Development

Mr. DeFranks is responsible for cultivating strategic accounts for Communications and Commerce. Formerly Vice President of Business Development for Stream International, he has established solid relationships with leading telecommunications and technology clients. He developed Stream's business services for internet service providers and managed the relationships with both Netscape and Sprint's Passport Internet Service.

Prior to joining Stream, Mr. DeFranks was both VP of New Business Development and VP Sales for Rand McNally where he managed a \$51MM budget and 11 direct reports with both sales and operational responsibilities. His career began as a Contract Specialist and Marketing Representative for IBM from 1985-91. In fact, he quickly converted from intern to full-time employee at IBM while still in college

PRICING SCHEDULE

63

3

73

4

IMPLEMENTATION TIMELINE

Exhibit N

LAST UPDATE October 25, 1998

Item #	OWNER	DUE DATE	ITEM	STATUS	NOTES
1	RM, MG	21-Oct	Script Edit based on Mike's Notes, AT and client review		Enailed Notes to Robert
2	MG, RM, DP	25-Oct	Complete Spouse Script		Mike has questions for Alec
3	MG, RM, DP	25-Oct	Integrate Spouse Script to Fleet Application		Mike has questions for Alec
4	MG, RM, DP, DD	26-Oct	Test Output from Spouse apps		
5	MF	26-Oct	Load Database in Production environment		
6	MF	26-Oct	4.5 million records loaded in database		
7	MF	26-Oct	Actual Record Count and Sample of one record per tape		
8	RM	23-Oct	Export of actual Job Table in Excel	COMPLETE	Email to Alec
9	AB	22-Oct	Provide spec of the dispositions		Email to Alec
10	MG, RM, DP	26-Oct	Call Dispositions Automated		Spec needs discussion
11	TEAM	27-Oct	Reports (including supervisor view)		Need to discuss who owns
12	RM	26-Oct	Manual Recording Integrated		
13	MG, DP, DD	26-Oct	EDS File Automation setup/Transmissions automated		
14	PH, DD, MF	26-Oct	App Count and Vendor Trans File Being automated to BBS		
15	MG	27-Oct	Verification System Integrated		
16	DD, MF, KC	23-Oct	Oracle and NT logins created for all TSRS's		
17	KH	23-Oct	Phone Logins for TSRS's		
18	On Target, All	27-Oct	Server Sizing and Reliability		
19	PH	26-Oct	Update to App count and vendor trans file		
20	RM, MG	23-Oct	Integrate Job Table to Script and FAQ		
21	MG	26-Oct	Automated Recording Integrated and Tested with Verification		
22	QCS, MG	26-Oct	IVR Application completed (& pulling all required data)		
23	DP, MG, QCS	28-Oct	Integration of CTI		
24	AB, QCS	26-Oct	IVR reports layouts provided to QCS		Step report and duration report
25	TEAM, QCS	26-Oct	Provide 1st round suggested updates to IVR		Team needs to discuss
26	QCS, MG	27-Oct	1st round Updates to IVR completed		
27	TEAM, QCS	28-Oct	Provide 2nd round suggested updates to IVR		
28	QCS, MG	29-Oct	2nd round Updates to IVR completed		
29	QCS	29-Oct	IVR report(s) completed		
30	Team, On Target	Daily	Test Output from IVR Application and O outs	perform daily	Step report and duration report
31	On Target	Daily	Additional Testing of application & verification of all items	perform daily	Roberta to assist in coordination
32	On Target	28-Oct	Initial ProComm modem(s) for connecting to EDS error Queue		see Alec
33	On Target	28-Oct	File storage/archiving - naming conventions for Fleet batches		

Exhibit O

Report run on: Tuesday, Dec 01, 1998 at 03

:00 AM.

Prompt	Step Number	Incomplete Non-"0"	Percent of Total Incomplete	"0" Out	Percent of Total "0" Out
Welcome	100	1889	18.62%	713	29.87%
Refer	200	88	0.87%	0	0.70%
Address check 1	500	322	3.17%	65	3.09%
Apply using	800	627	6.18%	201	6.61%
Invalid number	900	662	6.52%	0	5.28%
Enter SSN	1000	356	3.51%	129	3.87%
Verify SSN	1100	29	0.29%	8	0.30%
Enter street	1200	171	1.69%	114	2.27%
Enter zip 1	1300	17	0.17%	17	0.27%
Enter zip 2	1400	905	8.92%	0	7.22%
Call Info	1450	34	0.34%	0	0.27%
Housing	1500	435	4.29%	85	4.15%
House pay	1600	762	7.51%	404	9.30%
House pay ver	1700	140	1.38%	7	1.17%
Enter birthdate	1800	60	0.59%	0	0.48%
Birth to activate	1900	2	0.02%	0	0.02%
Are you 18	2000	25	0.25%	10	0.28%
Home phone	2100	100	0.99%	34	1.07%
Verify home phone	2200	24	0.24%	12	0.29%
Occupation	2300	17	0.17%	13	0.24%
Work phone	2400	14	0.14%	0	0.11%
Work phone req	2500	152	1.50%	53	1.64%
Income	2600	138	1.36%	0	1.10%
Need income	2700	517	5.10%	0	4.12%
Income verify	2800	9	0.09%	8	0.14%
Enter SSN	2900	21	0.21%	0	0.17%
Verify SSN	3000	24	0.24%	0	0.19%
To activate 2	3100	32	0.32%	7	0.31%
Mom's birthday	3200	114	1.12%	4	0.94%
Verify mom's BD	3300	38	0.37%	71	0.87%
Dependents	3400	7	0.07%	0	0.06%
Account type	3600	33	0.33%	24	0.45%
BT rates	3700	20	0.20%	0	0.16%
Transfer balance	3800	104	1.02%	60	1.31%
No transfer	3900	11	0.11%	4	0.12%
Need a moment	4000	34	0.34%	36	0.56%
Pause prompt	4100	23	0.23%	0	0.18%
Card type	4150	261	2.57%	31	2.33%
BT main card	4200	91	0.90%	107	1.58%
Get CC number 1	4400	369	3.64%	143	4.08%
Get CC number 2	4500	415	4.09%	0	3.31%
CC num verify 1	4700	7	0.07%	0	0.06%
Get BT amount 1	5300	87	0.86%	25	0.89%
Get BT amount 2	5400	2	0.02%	0	0.02%
Verify BT amount	5600	5	0.05%	1	0.05%
Additional xfer	5800	5	0.05%	1	0.05%
Complete+Xfer	6200	949	9.35%	0	7.57%

Totals

10147

2387

Exhibit P

